



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,829	07/17/2003	Volker Klaus Null	TS-9504 (US)	1992
23632	7590	06/07/2007	EXAMINER	
SHELL OIL COMPANY			LEE, RIP A	
P O BOX 2463			ART UNIT	PAPER NUMBER
HOUSTON, TX 772522463			1713	
			MAIL DATE	DELIVERY MODE
			06/07/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/621,829	<b>Applicant(s)</b> NULL, VOLKER KLAUS	
	<b>Examiner</b> Rip A. Lee	<b>Art Unit</b> 1713	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 March 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 4,13,14 and 21-57 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13 and 14 is/are allowed.
- 6) ☒ Claim(s) 4,21,22,24,26-44,47,48,50,51 and 55-57 is/are rejected.
- 7) ☒ Claim(s) 23, 25, 38, 45-47, 49 and 52-54 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This office action follows a request for continued examination (RCE) under 37 § C.F.R. 1.114, filed on November 8, 2006. The most recent set of claims, submitted March 23, 2006, will be used for this office action. Claims 4, 13, 14, and 21-57 are pending.

#### ***Claim Objections***

1. Claim 38 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 33. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k). Both are drawn to essentially the same composition comprising Fischer-Tropsch derived oil having a sulfur content of 5 ppm or less and a nitrogen content of 1 ppm or less.
2. Claim 47 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 31. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k). Both are drawn to essentially the same composition comprising 0.1-10 wt % of Fischer-Tropsch derived oil having a pour point below -10 °C.

#### ***Claim Rejections - 35 USC § 103***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Art Unit: 1713

4. Claims 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Migchels *et al.* (U.S. 6,451,865).

Migchels *et al.* discloses oil gel compositions comprising copolymers of polystyrene. The oil component may be an oil prepared by Fischer-Tropsch synthesis (col. 7, line 23). Although the examples section of the disclosure does not show such an embodiment, it would have been obvious to one having ordinary skill in the art to use Fischer-Tropsch derived oil for preparing oil gel compositions of the invention because the inventors instruct the skilled artisan to do so. Since this combination is contemplated by the inventors, one of ordinary skill in the art would have expected such an embodiment to work. One skilled in the art would have found it obvious to use Kraton G-1652 as the polystyrene containing material because this is shown in the working examples (col. 10, line 26). This commercially available material is a clear plastic that is used in molding.

5. Claims 31-34, 37, 38, 43, 47, 48, 55-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Migchels *et al.* in view of O'Rear *et al.* (U.S. 6,562,230).

Migchels *et al.* is silent with respect to the nature of the Fischer-Tropsch oil for practicing the invention. O'Rear *et al.* teaches Fischer-Tropsch oils having pour points in the temperature range of -15 to -40 °C (claim 14). Absent any showing of criticality, one of ordinary skill in the art would have found it obvious to use the oils disclosed in O'Rear *et al.* in the invention of Migchels *et al.*, and thereby arrive at the subject matter of the instant claims. According to O'Rear *et al.*, the oils have a kinematic viscosity of at least 5 mm<sup>2</sup>/s at 40 °C. An exemplary oil shown in Table 5 exhibits a kinematic viscosity of 11 cSt at 40 °C. Although the kinematic viscosity is not measured at 100 °C, a reasonable basis exists to believe that the oils disclosed in the patent exhibit the recited kinematic viscosity at elevated temperature. Since the PTO can not perform experiments, the burden is shifted to the Applicants to establish an unobviousness difference. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). The reference does not quantify the sulfur or nitrogen content of the oil. However, in view of the fact that the oil is derived from a Fischer-Tropsch process, a reasonable basis exists to believe that the oil described in O'Rear *et*

Art Unit: 1713

*al.* exhibits the features of instant claims 33, 34, and 56, especially in light of the fact that the slurry liquid for carrying out the Fischer-Tropsch chemistry is essentially free of contaminants such as sulfur, heteroatoms, and cyclic saturated compounds (col. 5, line 37 and col. 9, line 15) and in view of the fact that hydrocracking/hydrotreating is carried out, which serves as a desulfurization/denitrification step (col. 11, lines 8-20). Since the oil is essentially free of these contaminants, it is reasonable to expect it to exhibit the Saybolt color property recited in claim 55. Also, since the oil is derived from the same process as recited in the instant claims, a reasonable basis exists to believe that it exhibits the property recited in claim 57. Again, the burden of proof is shifted to the Applicants to establish an unobviousness difference.

6. Claims 29 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gapinski (U.S. 2004/0110647).

The invention of Gapinski relates to a composition comprising a styrene/maleic acid copolymer and 10 wt % of lubricating oil. According to the inventor, suitable oils are those that are prepared by Fischer-Tropsch synthesis. Although the examples section of the disclosure does not show such an embodiment, it would have been obvious to one having ordinary skill in the art to use Fischer-Tropsch derived oil for preparing oil gel compositions of the invention because the inventor instructs the skilled artisan to do so. Since this combination is contemplated by the inventor, one of ordinary skill in the art would have expected such an embodiment to work.

7. Claims 30-36, 37-40, 43, 44, 47, 48, 50, and 55-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gapinski in view of O'Rear *et al.*

Gapinski is silent with respect to the nature of the Fischer-Tropsch oil for practicing the invention. O'Rear *et al.* teaches Fischer-Tropsch oils having having pour points in the temperature range of -15 to -40 °C (claim 14). Absent any showing of criticality, one of ordinary skill in the art would have found it obvious to use the oils disclosed in O'Rear *et al.* in the invention of Migchels *et al.*, and thereby arrive at the subject matter of the instant claims. According to O'Rear *et al.*, the oils have a kinematic viscosity of at least 5 mm<sup>2</sup>/s at 40 °C. An exemplary oil shown in Table 5 exhibits a kinematic viscosity of 11 cSt at 40 °C. Although the

Art Unit: 1713

kinematic viscosity is not measured at 100 °C, a reasonable basis exists to believe that the oils disclosed in the patent exhibit the recited kinematic viscosity at elevated temperature. Since the PTO can not perform experiments, the burden is shifted to the Applicants to establish an unobviousness difference. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). The reference does not quantify the sulfur or nitrogen content of the oil. However, in view of the fact that the oil is derived from a Fischer-Tropsch process, a reasonable basis exists to believe that the oil described in O'Rear *et al.* exhibits the features of instant claims 33, 34, and 56, especially in light of the fact that the slurry liquid for carrying out the Fischer-Tropsch chemistry is essentially free of contaminants such as sulfur, heteroatoms, and cyclic saturated compounds (col. 5, line 37 and col. 9, line 15) and in view of the fact that hydrocracking/hydrotreating is carried out, which serves as a desulfurization/denitrification step (col. 11, lines 8-20). Since the oil is essentially free of these contaminants, it is reasonable to expect it to exhibit the Saybolt color property recited in claim 55. Also, since the oil is derived from the same process as recited in the instant claims, a reasonable basis exists to believe that it exhibits the property recited in claim 57. Again, the burden of proof is shifted to the Applicants to establish an unobviousness difference.

8. Claims 37-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gapinski in view of Trewella *et al.* (U.S. 6,090,989).

Gapinski is silent with respect to the nature of the Fischer-Tropsch oil for practicing the invention. Trewella *et al.* discloses a Fischer-Tropsch derived lubricant oil having a kinematic viscosity of 7.14 cSt at 100 °C and a pour point of 12 °C (example 1). Absent any showing of criticality, one of ordinary skill in the art would have found it obvious to use the oils disclosed in Trewella *et al.* in the invention of Gapinski, and thereby arrive at the subject matter of the instant claims. Trewella *et al.* is silent regarding the sulfur and nitrogen content, however, in light of the fact that the initial Fischer-Tropsch wax is formed from relatively pure synthesis gas containing little, if any, nitrogen or sulfur containing compounds in the gas phase (col. 4, line 67 - col. 5, line 5), a reasonable basis exists to believe that the oil product in example 1 of Trewella *et al.* exhibits the claimed sulfur and nitrogen content. Since the PTO can not perform experiments, the burden is shifted to the Applicants to establish an unobviousness difference. *In re Best*, 562

Art Unit: 1713

F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

9. Claims 4, 21, 22, 24, and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gapinski in view of Germaine (U.S. 2004/0079678).

Gapinski is silent with respect to the nature of the Fischer-Tropsch oil for practicing the invention. Germaine discloses a Fischer-Tropsch derived base oil having a kinematic viscosity at 100 °C of 12-30 cSt which finds use as a plasticizer (claims 11 and 12). Absent any showing of criticality or unexpected results, it would have been obvious to one having ordinary skill in the art to use the oil taught by Germaine in the composition of Gapinski, and since the prior art indicates that the oil is useful as plasticizer, one of ordinary skill in the art would have expected the combination of teachings to work with a reasonable expectation of success.

A heavy grade oil having a kinematic viscosity of 22.9 cSt and a pour point of 9 °C, found in Table 2, is exemplary. Although the oil in Germaine is not characterized as recited in instant claim 4, a reasonable basis exists to believe that it exhibits the molecular weight based features recited in instant claims 4 and 21, especially in light of the fact that the heavy Fischer-Tropsch product contains at least 50 wt % of compounds having at least 30 carbon atoms (paragraph [0014]). Germaine is also silent regarding the amount of polar compounds, however, it appears that it is less than the claimed upper limit of 1 wt %, as indicated by the inventor: sulfur and nitrogen levels will generally be below 1 ppm (paragraph [0016]). Since the amount of contaminant is within the claimed range, one of ordinary skill in the art would have reasonably expected the Saybolt color to be greater than 25, as recited in instant claim 24. In addition, due to the nature of the Fischer-Tropsch process, one skilled in the art would have reasonable basis to believe that the oil exhibits the property recited in instant claims 26 and 28. Since the PTO can not perform experiments, the burden is shifted to the Applicants to establish an unobviousness difference. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

10. Claims 23, 25, 45, 46, 49, and 52-54 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. In particular, none of the references cited to date discloses a polystyrene composition containing a Fischer-Tropsch derived oil having a kinematic viscosity (100 °C) greater than 7 cSt and a pour point of less than -10 °C or containing a Fischer-Tropsch derived oil having a pour point of less than -10 °C and having an average molecular weight of at least 480 and a content of mineral hydrocarbons with carbon numbers less than 25 of not more than 5 wt %.

11. The following is a statement of reasons for the indication of allowable subject matter: As indicated previously, claim 13 and 14 are allowed. None of the references cited to date teaches the subject matter of the instant claims.

#### ***Response to Arguments***

12. Applicant traverses the rejection of claims set forth in the final office action of June 9, 2006. Applicants submit that Migchels *et al.* and Gapinski do not disclose the instant invention because the amount of Fischer-Tropsch derived oil lies outside that disclosed in the instant invention. The examiner notes that independent claims recite the presence of two components and not their relative amounts. In this context, the subject matter of these claims is obvious over the teachings of the cited prior art. Moreover, Gapinski teaches use of a lower limit of 10 wt % of oil. The term “as plasticizer” in the instant claims indicates function rather than amount. The Fischer-Tropsch oil, *ipso facto*, qualifies as plasticizer, regardless of amount.

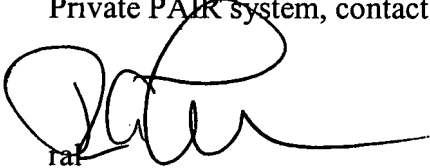
The rejection of claims over 35 U.S.C. 112, 2<sup>nd</sup> paragraph has been withdrawn.



Art Unit: 1713

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rip A. Lee whose telephone number is (571)272-1104. The examiner can be reached on Monday through Friday from 9:00 AM - 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached at (571)272-1114. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <<http://pair-direct.uspto.gov>>. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

A handwritten signature in black ink, appearing to read 'Rip A. Lee', with a large loop at the beginning and a long horizontal stroke at the end.

June 5, 2007